

REMARKS

Claims 1-41 are pending in the application. In the Office Action mailed on December 12, 2002, the Examiner made the following disposition:

- A.) Objected to the title of the invention.
- B.) Objected to the specification.
- C.) Rejected claims 1, 2, 4-10, 12, 24, 26-32, 34 and 40 under 35 U.S.C. §102 (b) as being allegedly anticipated by *Hale et al.*
- D.) Rejected claims 3, 11, 25 and 33 under 35 U.S.C. §103(a) as being allegedly unpatentable over *Hale et al.*
- E.) Provisionally rejected claims 1, 2, 4, 24 and 26 under the judicially created doctrine of obviousness-type double patenting.
- F.) Objected to claims 13-23, 35-39 and 41 as being dependent upon a rejected base claim.

Applicants respectfully traverse the rejections and address the Examiner's disposition as follows:

A.) Objection to the title of the invention:

The title has been amended as per the Examiner's request to overcome the objection. Attached hereto is a marked-up version of the changes made to the specification and claims by this amendment. The attached pages are captioned "**VERSION WITH MARKING TO SHOW CHANGES MADE**".

Applicants respectfully submit the objection has been overcome and request that it be withdrawn.

B.) Objection to the specification:

The specification has been amended as per the Examiner's request to overcome the objection. Specifically, the specification has been amended to include the missing U.S. patent application serial number in the Statement of Related Applications. No new matter is added by the present amendments.

Applicants respectfully submit the objection has been overcome and request that it be withdrawn.

C.) Rejection of claims 1, 2, 4-10, 12, 24, 26-32, 34 and 40 under 35 U.S.C. §102 (b) as being allegedly anticipated by *Hale et al.*:

Applicants respectfully traverse the rejection.

Applicants' independent claims 1, as amended, and 24 each claim a passive transmitter having a voltage controlled switch in series with a charge storage device. Upon operable connection of the passive transmitter to a selected branch circuit, the voltage controlled switch is triggered into conductance by application of a voltage in excess of a breakdown voltage across the voltage controlled switch, allowing current to flow through the charge storage device, causing the charge storage device to charge and instantaneously developing a current spike signal on the selected branch circuit.

Claim 40, as amended, claims a method wherein a passive transmitter operates similarly to the passive transmitter claimed in claims 1 and 24.

This is clearly unlike *Hale*, which charges a capacitor, and then turns on a diode and in turn a silicon controlled rectifier (SCR) after the capacitor is charged. Referring to *Hale* Figure 2, *Hale* discloses a pulsing electrical load 20. *Hale* discloses pulsing electrical load 20, “[u]pon the insertion of a 100 watt incandescent bulb 35 within socket 36, for example, and insertion of plug 32 within outlet 18, current will flow through diode 40 and resistor 42 thereby charging capacitor 44.” (Col. 3, lines 39-43). “When enough voltage crosses capacitor 44 it will cause diode 46 to switch to the conducting state and allow the charge from capacitor 44 to flow into the gate electrode 47 of rectifier 48 thereby turning on SCR 48.” (Col. 3, lines 43-47). “When SCR 48 turns on a short circuit is produced and no more current flows through diode 40 and onto capacitor 44.” (Col. 3, lines 47-49).

Therefore, unlike Applicants' independent claims 1, 24 and 40 that claim charging a charge storage device (*e.g.*, a capacitor) upon a voltage controlled switch being triggered into conductance, *Hale* first charges its capacitor and then turns on a diode and an SCR after the capacitor is charged. Accordingly, *Hale* fails to disclose or even suggest Applicants' claims 1, 24 and 40.

Claims 2, 4-10, 12, 26-32 and 34 depend directly or indirectly from claims 1 or 24 and are therefore allowable for at least the same reasons that claims 1 and 24 are allowable.

Applicants respectfully submit the rejection has been overcome and request that it be withdrawn.

D.) Rejection of claims 3, 11, 25 and 33 under 35 U.S.C. §103(a) as being allegedly unpatentable over Hale et al.:

Applicants respectfully traverse the rejection.

Applicants' independent claims 1 and 24 are allowable over *Hale* as discussed above. Claims 3, 11, 25 and 33 depend directly or indirectly from claims 1 and 24 and are therefore allowable over *Hale* for at least the same reasons that claims 1 and 24 are allowable.

Applicants respectfully submit the rejection has been overcome and request that it be withdrawn.

E.) Provisional rejection of claims 1, 2, 4, 24 and 26 under the judicially created doctrine of obviousness-type double patenting:

Applicants respectfully traverse the provisional rejection of claims 1, 2, 4, 24 and 26 under the judicially created doctrine of obviousness-type double patenting over claim 12 of copending U.S. Application No. 09/830,240.

An issue fee was due in U.S. Application No. 09/830,240 on April 15, 2003. The Applicant in U.S. Application No. 09/830,240 elected not to pay the issue fee. Accordingly U.S. Application No. 09/830,240 is abandoned (although Applicant in U.S. Application No. 09/830,240 has not yet received a Notice of Abandonment).

Applicants respectfully submit that since U.S. Application No. 09/830,240 has become abandoned, the provisional rejection is now improper. Therefore, Applicants submit the provisional rejection has been overcome and request that it be withdrawn.

F.) Objection to claims 13-23, 35-39 and 41 as being dependent upon a rejected base claim:

The Examiner stated that claims 13-23, 35-39 and 41 are objected to as being dependent upon a rejected base claim, but would otherwise be allowable if rewritten in independent form including all of the limitations of their base claim and any intervening claims.

Applicants respectfully acknowledge the Examiner's finding of allowable subject matter in claims 13-23, 35-39 and 41. Independent claims 1, 24 and 40 are allowable as discussed above. Claims 13-23, 35-39 and 41 depend directly or indirectly from claims 1, 24 or 40 and are therefore allowable for at least the same reasons that claims 1, 24 and 40 are allowable.

CONCLUSION

In view of the foregoing, it is submitted that claims 1-41 are patentable. It is therefore submitted that the application is in condition for allowance. Notice to that effect is respectfully requested.

Should anything further be required, or if the prosecution of the present patent application may be advanced by a telephone conference, the Examiner is respectfully requested to call the undersigned at (312) 876-7391.

Respectfully submitted,
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VERSION WITH MARKINGS TO SHOW CHANGES MADE:

In the specification:

Please delete the present title and insert the following replacement title:

--MULTI-TEST CIRCUIT BREAKER LOCATOR HAVING A TRANSMITTER AND A

5 RECEIVER--

Please replace the paragraph beginning at page 1, line 3, with the following replacement paragraph:

--This application is a continuation in part of Application Serial No. 09/061,434 filed

10 April 17, 1998 and U.S. Serial No. [] 09/830,240, abandoned, filed November 2, 1999 through the Patent Cooperation Treaty under Serial No. PCT/US99/25775.--

In the Claims:

Please amend claims 1 and 40 as follows:

15 1. (Amended) A system for locating a circuit interrupter associated with a selected branch circuit from amongst a plurality of circuit interrupting devices, each circuit interrupter within said plurality of circuit interrupting devices being operably connected in series between a power line bus bar and a respective branch circuit, each branch circuit having a hot lead and a neutral lead, said system comprising:

20 - a receiver broadly tuned about a predetermined frequency of a current spike signal created on said selected branch circuit by a passive transmitter, said receiver driving a user-perceivable signaling device upon sensing said current spike signal; and

25 - said passive transmitter creating said current spike signal on said selected branch circuit at said predetermined frequency upon operable connection to said selected branch circuit, said current spike signal having a sufficiently short spike duration and a sufficient amplitude so as to substantially minimize development of a sympathetic signal on other branch circuits adjacent to said selected branch circuit, said passive transmitter including a voltage controlled switch in series with a charge storage device;

30 - whereby upon operable connection to said selected branch circuit, said voltage controlled switch is triggered into conductance by application of a voltage in excess of a breakdown voltage across said voltage controlled switch, allowing current to flow through said charge storage device; causing said charge storage device to charge and instantaneously

- developing a current spike signal on said selected branch circuit; and
 - whereby said receiver detects said current spike signal solely when in proximity to said circuit interrupter associated with said selected branch circuit as said current spike signal on said selected branch circuit is easily distinguished from said sympathetic signal developed on any of said other branch circuits.

5 40. (Amended) A method for locating a circuit interrupter associated with a selected branch circuit from amongst a plurality of circuit interrupting devices, each circuit interrupter within said plurality of circuit interrupting devices being operably connected in series between a power line bus bar and a respective branch circuit, each branch circuit having a hot lead and a neutral lead, said method comprising:

10 (a) operably connecting a passive transmitter to a selected branch circuit, said passive transmitter having a voltage controlled switch in series with a charge storage device;

15 (b) creating a current spike on the selected branch circuit at a predetermined frequency, whereby upon operable connection of the passive transmitter to the selected branch circuit, the voltage controlled switch is triggered into conductance by application of a voltage in excess of a breakover voltage across said voltage controlled switch, allowing current to flow through said charge storage device, causing said charge storage device to charge and instantaneously developing a current spike signal on said selected branch circuit;

20 (c) inducing only a substantially weak electromagnetic field about the selected branch circuit by limiting the current spike signal to a sufficiently short duration;

 (d) placing a receiver broadly tuned about the predetermined frequency of the current spike signal in physical proximity to each of the plurality of circuit interrupting devices individually; and

25 (e) driving a user-perceivable signaling device when the receiver is coupled to the weak electromagnetic field generated at the predetermined frequency of the current spike signal.